Fort George G. Meade

Architect of the Capitol
- Project Briefing -

Restoration Advisory Board Meeting
March 20, 2014

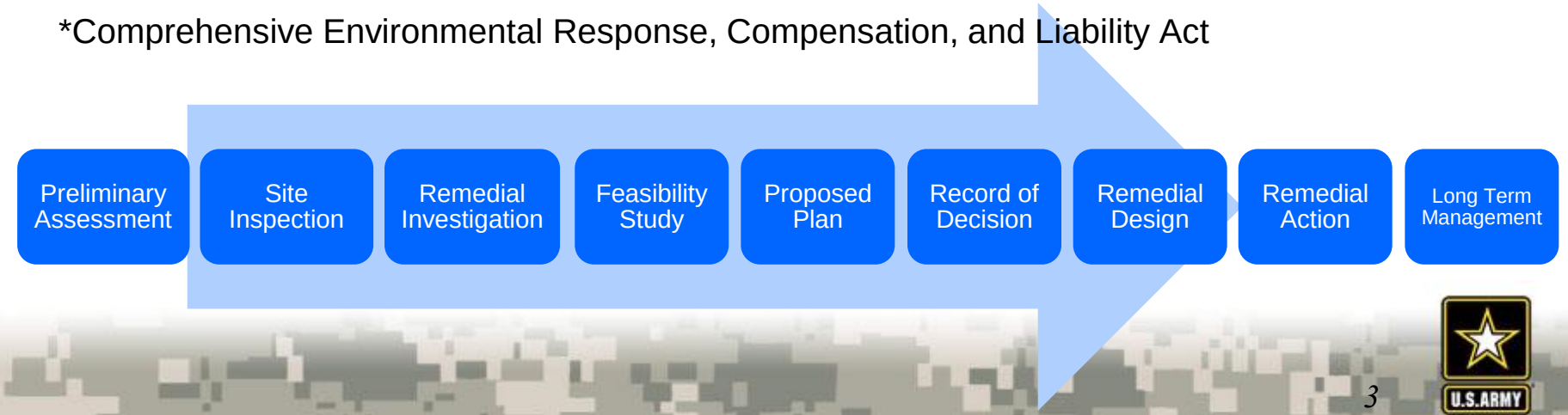
Presentation Agenda

- Status of the CERCLA Process for AOC
- Site Information
  - Location
  - History
- Field Investigations
  - Summary of Findings
- Risk Assessment Results
- Feasibility Study Summary
- Schedule

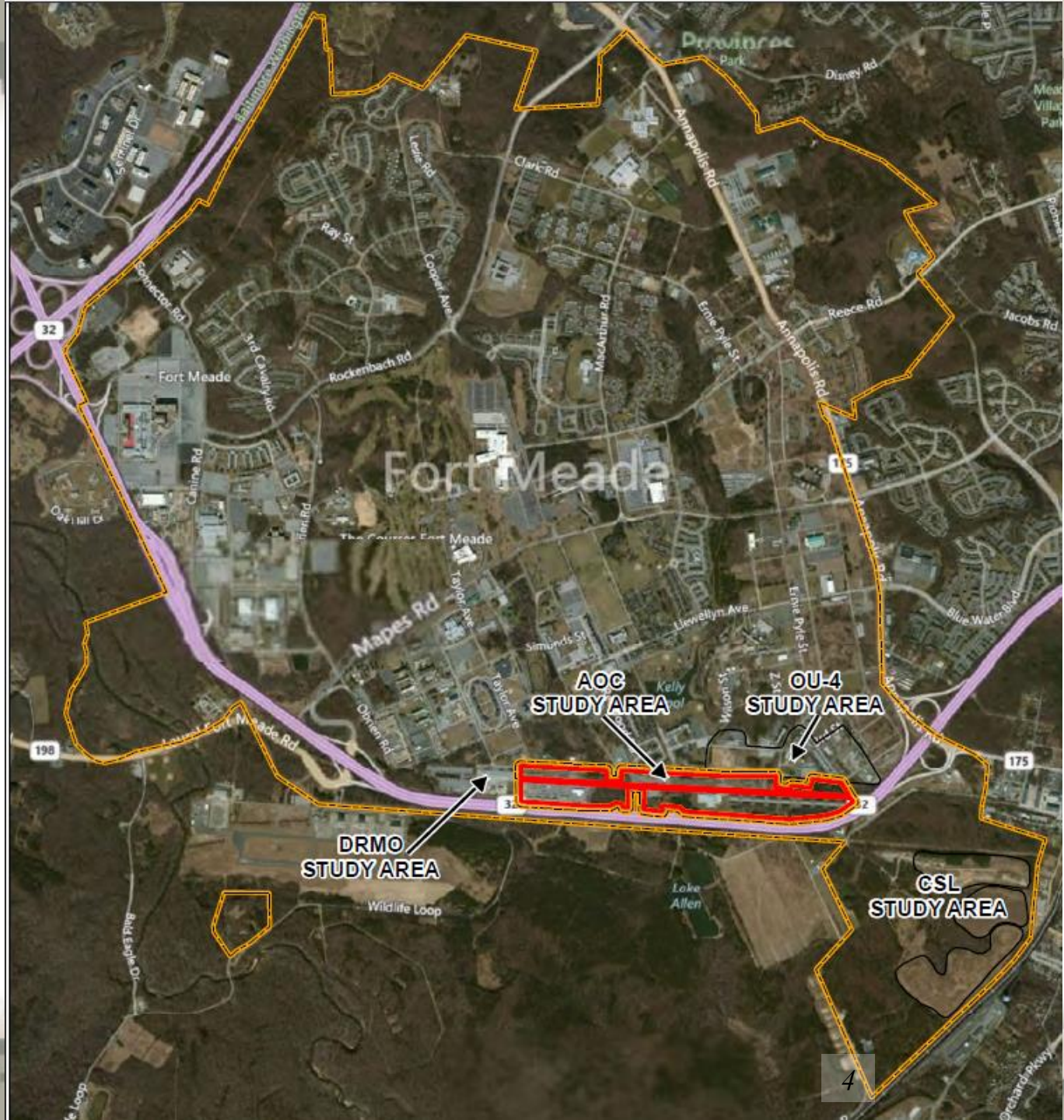
Status of CERCLA* Process

- ✓ Remedial Investigation (RI) - characterization of site *FINAL*
- ✓ Feasibility Study (FS) - assessment of possible remedies *DRAFT*
- ✓ Proposed Plan (PP) - solicit public input on preferred remedy *DRAFT*
- ❑ Record of Decision (ROD) - legal documentation of remedy selection
- ❑ Remedial Design (RD) - remedy implementation plan
- ❑ Remedial Action (RA) - remedy implementation

*Comprehensive Environmental Response, Compensation, and Liability Act



AOC Site Location



Site Use and History

- Historical Army Uses:
  - Multiple warehouse and storage areas
  - Transportation motor pool facility
- Property transferred from Army to Architect of the Capitol (AOC) effective September 1994
- Current AOC Uses:
  - Library of Congress document storage facility
  - Warehouse and storage areas
  - Transportation motor pool facility (Army lease)

CERCLA RI Activities

- RI fieldwork between 1990 and 2011
  - Surface soil, subsurface soil, and groundwater sampling completed in multiple phases at locations across the 93-acre parcel.

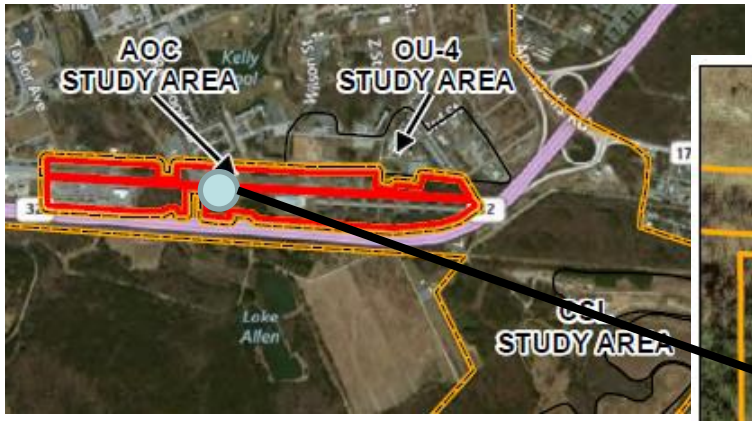
Field Investigation -Soil

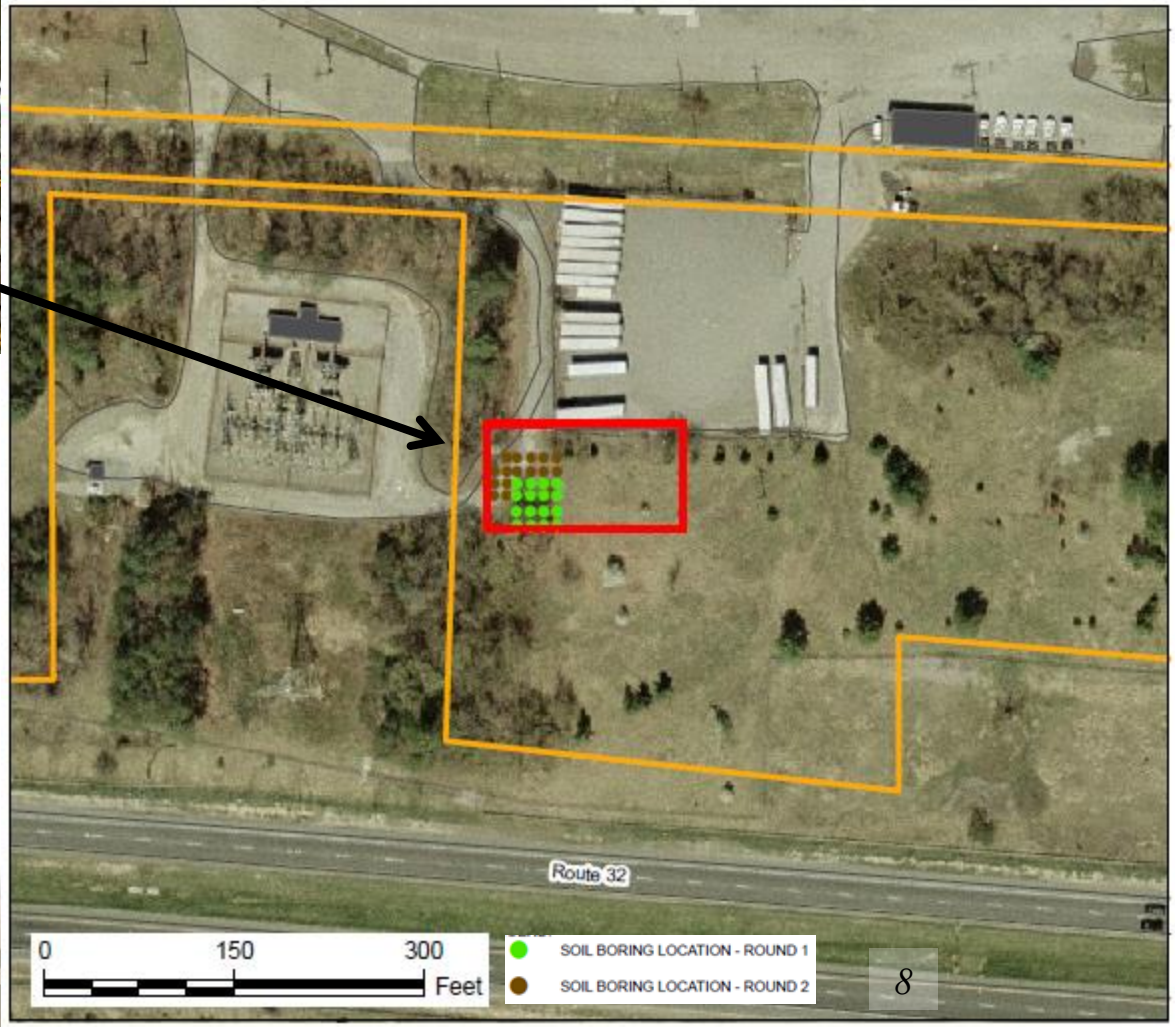
- Soil tested for numerous constituents: VOCs, SVOCs, metals, pesticides, and PCBs

- Only lead was identified in soil at concentrations driving a potential risk.

- Extensive vertical and horizontal grid sampling was completed to depths of 14 feet below ground surface to evaluate an initial elevated lead sample. Two small lead hot spot areas limited to depths of 7 and 10 feet below ground surface were identified.

Location of Lead Sampling Area





Horizontal and vertical soil sampling was completed in this area to delineate the extent of lead contamination.

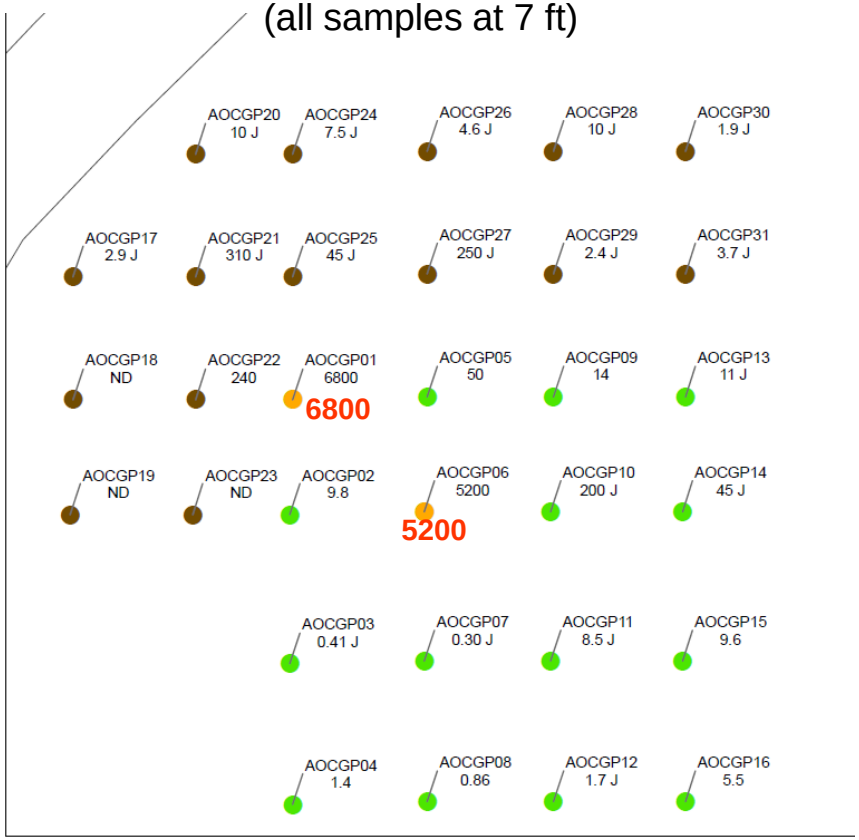
AOC Elevated Lead Area

“Hot Spot” Evaluation at Depth - 7 ft & 10 ft

At 7 ft BGS

Avg Pb Conc = 427 mg/kg

(all samples at 7 ft)

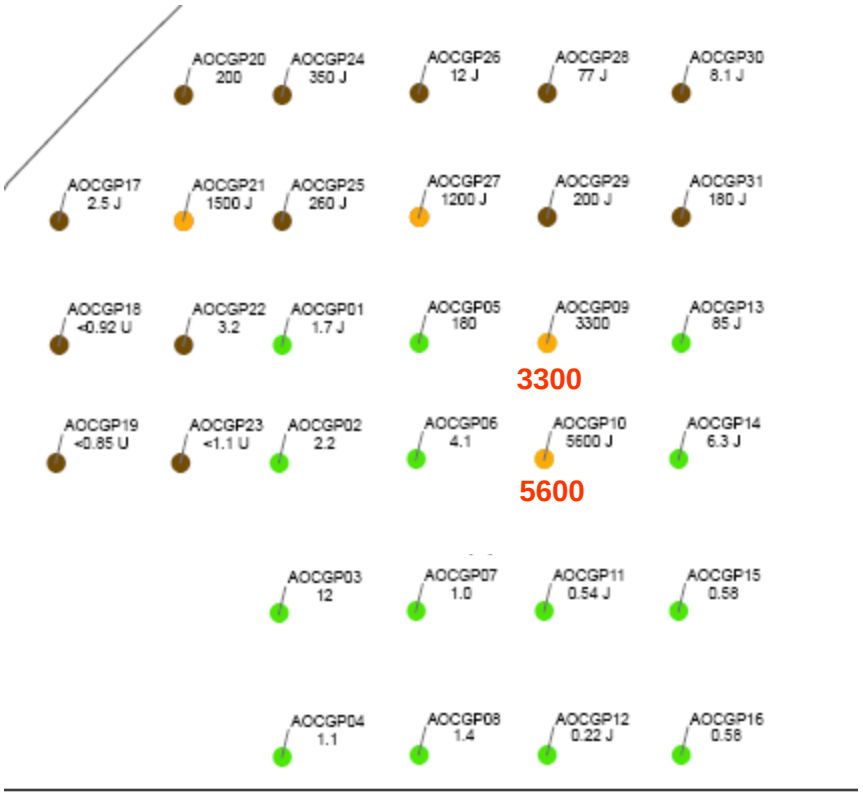


mg/kg = milligrams per kilogram (equivalent to parts per million)

At 10 ft BGS

Avg Pb Conc = 425 mg/kg

(all samples at 10 ft)



Avg lead concentration across only the 7 ft or 10 ft depth interval slightly exceed the 400 mg/kg residential soil RSL (regional screening level) and the 418 mg/kg preliminary remedial goal.

Field Investigation - Groundwater

- Groundwater was tested for VOCs, SVOCs, pesticides, PCBs, and total and dissolved metals.
- Shallow groundwater at AOC is impacted by VOCs originating from nearby parcels and being investigated/remediated under separate CERCLA actions, including:
  - VOCs in groundwater on the western edge of AOC originating from OU-5/DRMO and;
  - VOCs in groundwater on the eastern side of AOC originating from OU-4.
- Actions related to the VOC groundwater contamination are being handled separately as part of the OU-4 and OU-5 investigations.

Field Investigation – Groundwater (cont.)

- Metals in Groundwater:
  - Elevated concentrations of total and dissolved metals were detected at AOC in shallow groundwater.
  - The concentrations are generally comparable to upgradient (background) samples.
  - There is no indication of a current or former source for the metals concentrations on the AOC parcel and there is no identifiable plume.

- Shallow groundwater is not used for drinking water or any other use, but under a hypothetical future use scenario, there would be elevated risks if commercial workers or hypothetical residents were to use the shallow water for drinking water purposes due to concentrations of: arsenic, chromium, cobalt, and aluminum.

Risk Assessment

- Current Use:
  - No unacceptable risks for human health and the environment for current users (commercial workers, construction/utility workers).

- Likely Future Use:
  - No unacceptable risks for human health and the environment for the reasonably anticipated future uses (commercial workers, construction/utility workers)

Risk Assessment (cont.)

- Hypothetical Future Use:
  - If groundwater is used for drinking water, unacceptable risks are indicated from groundwater ingestion by hypothetical future residents or commercial workers (metals).
  - If the site was regraded to allow for exposure to soils at 7 or 10 feet below ground surface, unacceptable risks are indicated for hypothetical residents or commercial workers (lead).

Note: Neither residential use nor use of shallow groundwater for potable purposes are anticipated for the AOC property, so these are considered hypothetical scenarios.

Feasibility Study

- Site advanced to an FS to evaluate remedies associated with:
  - Metals in groundwater under a hypothetical drinking water use scenario, and
  - Lead in soil under a hypothetical regrading scenario with exposure to two small hot spot areas currently at 7 and 10 feet below ground.

Feasibility Study

- Nine criteria are used to evaluate the different remedies individually and against each other, including:

1. Overall protectiveness of human health & the environment
2. Compliance with Applicable or Relevant and Appropriate Requirements
3. Long-Term Effectiveness & Permanence
4. Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment
5. Short-term Effectiveness
6. Implementability
7. Cost
8. State/Support Agency Acceptance
9. Community Acceptance

These are modifying criteria that are not fully considered until after public comment is received on the Proposed Plan.

Feasibility Study
(Groundwater)

- FS evaluated 2 options for metals in groundwater:
  - No Action as required by CERCLA
  - Land Use Controls (LUCs) to control access to groundwater in the future and long-term monitoring (LTM)
- LUCs with LTM is the recommended option presented in the Proposed Plan for groundwater.

Feasibility Study (Soil)

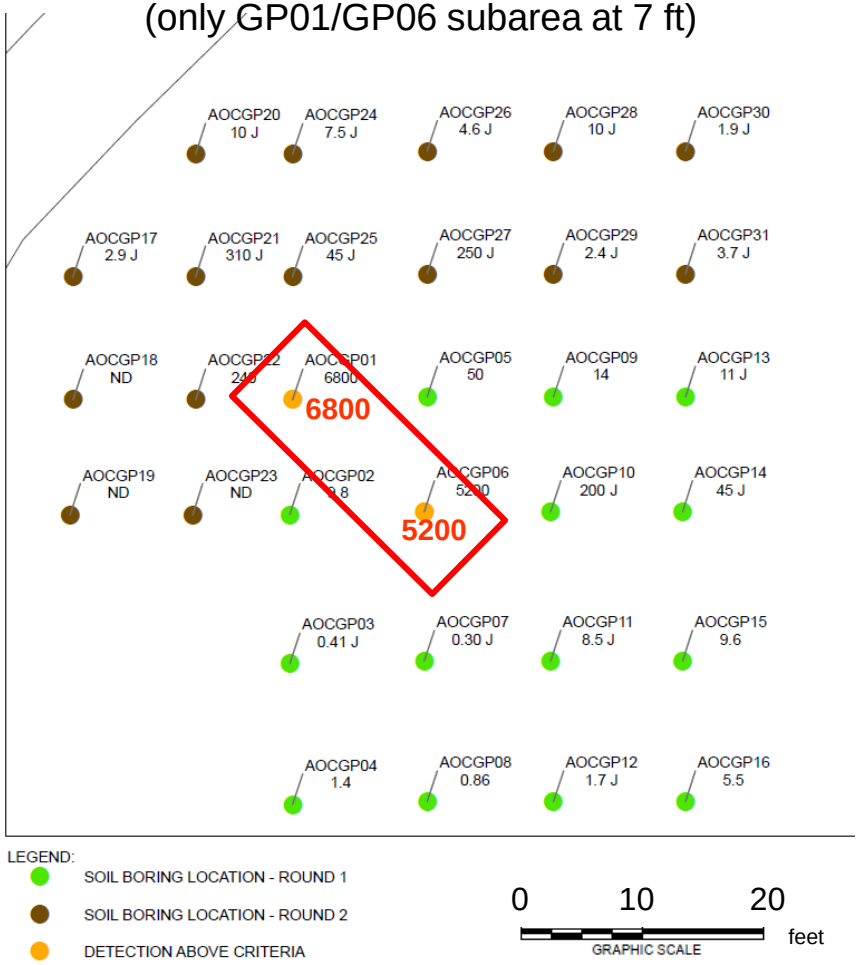
- FS evaluated 3 options for lead in soil:
  - No Action as required by CERCLA
  - LUCs including measures to prevent access to lead in subsurface soil
  - Hot spot excavation to dig up and dispose of the lead-contaminated soil off-site.
- Hot spot excavation is the recommended option presented in the Proposed Plan for soil.

Hot Spot Excavation Areas at 7 ft & 10 ft

At 7 ft BGS

Avg Pb Conc in red box = **6,300** mg/kg

(only GP01/GP06 subarea at 7 ft)

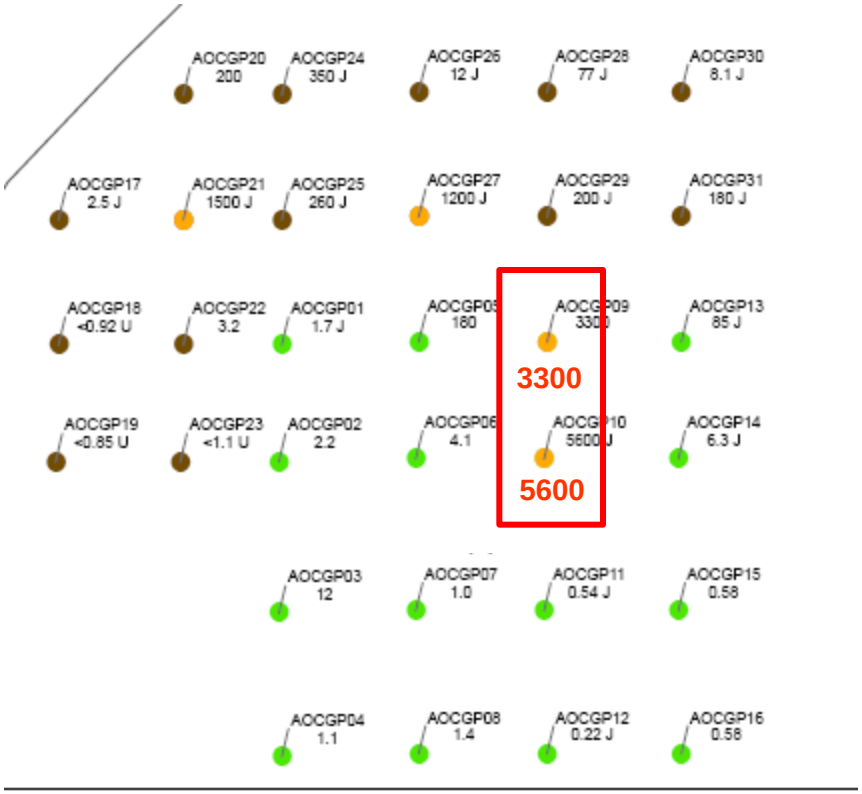


mg/kg = milligrams per kilogram (equivalent to parts per million)

At 10 ft BGS

Avg Pb Conc in red box = **4,450** mg/kg

(only GP09/GP10 subarea at 10 ft)



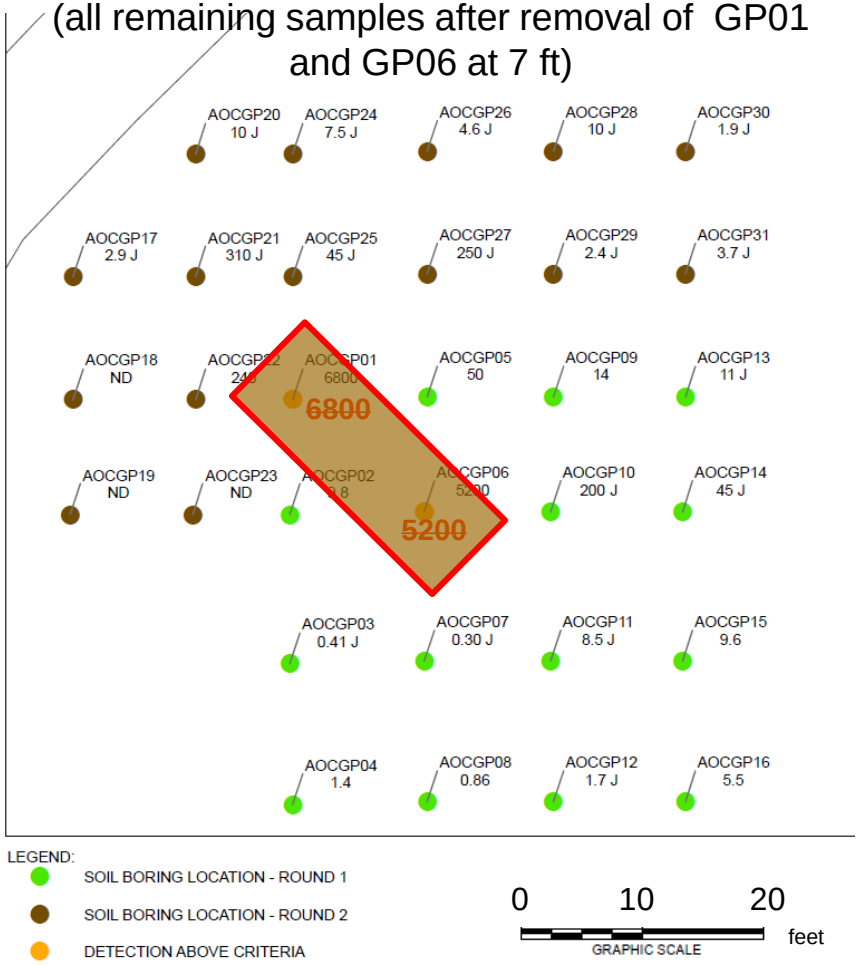
The red boxes indicate hot spots for lead representing the greatest potential risk to a potentially exposed population.

After Excavation Area is Suitable For Unrestricted Use

At 7 ft BGS

Avg Pb Conc = **43** mg/kg

(all remaining samples after removal of GP01 and GP06 at 7 ft)



LEGEND:

- SOIL BORING LOCATION - ROUND 1
- SOIL BORING LOCATION - ROUND 2
- DETECTION ABOVE CRITERIA

0 10 20 feet

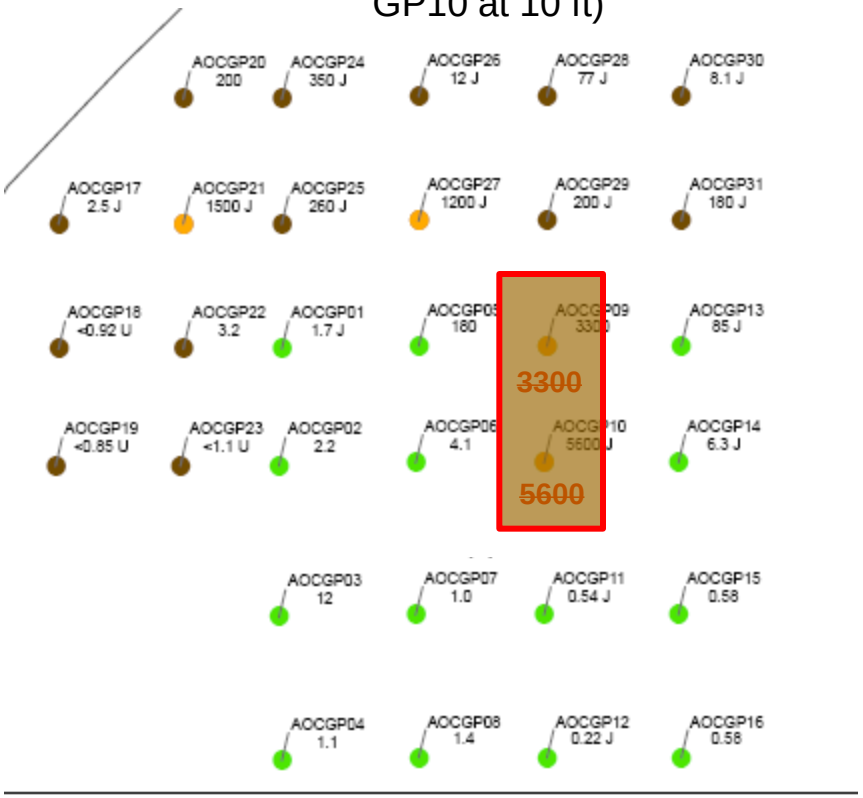
GRAPHIC SCALE

mg/kg = milligrams per kilogram (equivalent to parts per million)

At 10 ft BGS

Avg Pb Conc = **148** mg/kg

(all remaining samples after removal of GP09 and GP10 at 10 ft)



Assumes the hot spot areas (red boxes) have been excavated and backfilled with clean fill. Now the average lead concentrations across the study area are <400 mg/kg.

Schedule

- The Draft Final FS was submitted to EPA/MDE/AOC and the RAB on 2/28/2014 and is currently under review.

- The Draft Final Proposed Plan was submitted to EPA/MDE/AOC and the RAB on 3/10/2014 and is currently under review. It will be available to the public later in the spring and a public meeting will be scheduled at the same time.

- The Record of Decision for the final remedy is scheduled for June 2014

Questions/Comments?

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